A META-ANALYTIC REVIEW OF ATTITUDINAL AND
DISPOSITIONAL PREDICTORS OF ORGANIZATIONAL
CITIZENSHIP BEHAVIOR

DENNIS W. ORGAN, KATHERINE RYAN
School Of Business
Indiana University

A quantitative review of 55 studies supports the conclusion that job
attitudes are robust predictors of organizational citizenship behavior
(OCB). The relationship between job satisfaction and OCB is stronger
than that between satisfaction and in-role performance, at least among
nonmanagerial and nonprofessional groups. Other attitudinal mea-
sures (perceived fairness, organizational commitment, leader support-
iveness) correlate with OCB at roughly the same level as satisfaction.
Dispositional measures do not correlate nearly as well with OCB (with
the exception of conscientiousness). The most notable moderator of
these correlations appears to be the use of self- versus other-rating of
OCB; self-ratings are associated with higher correlations, suggesting
spurious inflation due to common method variance, and much greater
variance in correlation. Differences in subject groups and work settings
do not account for much variance in the relationships. Implications are
noted for theory, practice, and strategies for future research on OCB.

Just over a decade has elapsed since the publication of the first two
empirical studies specifically addressing “organizational citizenship be-
behavior” (OCB: Bateman & Organ, 1983; Smith, Organ, & Near, 1983),
or individual contributions in the workplace that go beyond role re-
quirements and contractually rewarded job achievements. Those studies
tested the prediction that job satisfaction, although not a strong correlate
of productivity, does relate to OCB, because the latter is less constrained
by either ability or work-process technology. Results of those two studies
supported that proposition.

Since 1983, numerous studies have expanded the empirical base of
the satisfaction-OCB link. Many studies have gone beyond the original
question of satisfaction and OCB to identify other predictors of OCB,
including other attitudinal variables and individual difference measures.

The authors gratefully acknowledge the exemplary citizenship behavior of Frank
Schmidt, Joe Stauffer, and Mike Burke for making available copies of the programs used
by us in the analyses reported here, and wish to express appreciation to three anonymous
reviewers for their exceptional professionalism in offering many constructive comments
and suggestions.

Correspondence and requests for reprints should be addressed to Dennis W. Organ,
School of Business, Indiana University, Bloomington IN 47405.
Researchers have now studied OCB in groups varying considerably in composition factors such as age, gender, tenure, and jobs. Studies have also spanned a wide variety of work settings. Researchers have tried varied measures of OCB and variations in research strategy, for instance, the use of self-ratings of OCB as well as other-ratings.

Theoretical Framework for OCB

The conceptual framework that has inspired work on OCB, and which guided the research reported here, has much in common with the work of Borman and Motowidlo (1993b) and Motowidlo and Van Scotter (1994) on “contextual performance,” a construct that is quite close to OCB. Borman and Motowidlo (1993b) note that individuals contribute to organizational effectiveness by doing things that are not main task functions but are important because they shape the organizational and social “context” that supports task activities. Thus, contextual performance (like OCB) includes such contributions as volunteering for extra-job activities, helping others, and upholding workplace rules and procedures regardless of personal inconvenience. Borman and Motowidlo suggest that such contributions have a generalized value and significance that cuts across different jobs and work organizations, whereas task performance varies from job to job. Moreover, Borman and Motowidlo (1993b) contend that such contributions are perceived as important and valuable by organization leaders, a position supported by evidence from Orr, Sackett, and Mercer (1988), MacKenzie, Podsakoff, and Fetter (1991), Werner (1994), Motowidlo and Van Scotter (1994), and Borman, White, and Dorsey (1995).

For Borman and Motowidlo, the distinction between contextual and task (i.e., in-role) performance is both theoretically and practically important because they are probably determined by different antecedents. Task-related knowledge, skills, and abilities are expected to determine task performance, whereas dispositional factors would better predict contextual performance. Pulakos, Borman, and Hough (1988) demonstrated that measures of cognitive ability predict technical skill and job effort, whereas certain personality measures better predict other criteria, such as personal discipline.

Our position, as shown in Figure 1, is much like Borman and Motowidlo’s (1993a, b). The major difference is that we would give as much emphasis to attitudinal as to personality factors in determining OCB. The tone of contemporary social psychology with respect to both attitudes and personality is that neither is likely to predict specific, situation-bound behaviors very well, but do predict aggregations of thematically related behaviors across varied situations and reasonable time intervals.
Figure 1: Correlates of Organizational Citizenship Behavior Versus In-Role Task Performance.

(Epstein, 1980). Also, OCB is less likely than in-role performance to be constrained by limitations of ability or by work process. Like Borman and Motowidlo, we would expect task performance to be determined largely by ability, particularly as that interacts with precise incentive structures for quantity or quality of task performance. We do not mean to suggest that these differences in causal determination of OCB and in-role performance are absolute. Ability might be a prerequisite to some specific instances of OCB; explicit incentives might well serve to increase some types of OCB; and in-role performance that inherently involves serving others could be related to some measurable personality factors (e.g., Hogan J & Hogan R, 1989).

To the extent that OCB is of value to the organization and is related to dispositional factors not tied to task performance, then dispositional variables "may prove to be more useful than they have been to date" (Borman & Motowidlo, 1993a, p. 1). And if attitude and morale factors such as job satisfaction relate more strongly to OCB than to in-role performance, then there is renewed importance of human resource management programs that monitor, maintain, and improve job attitudes.
Rationale for Meta-Analysis of OCB

We judged the accumulated empirical literature on predictors of OCB to be large enough to merit a meta-analytic assessment of the findings to date. In particular, several issues surrounding OCB would seem to warrant the type of analysis that is best served by aggregating results across many studies.

First, the accumulation of studies now permits a more precise estimate of the population correlation between satisfaction and OCB. Early studies suggested that this correlation exceeds that between satisfaction and in-role productivity. However, individual studies cannot provide a conclusive statement in this respect. Meta-analysis provides the basis for a more appropriate comparison with the relation between satisfaction and in-role performance.

Second, questions have arisen about moderators of the relationship between satisfaction (as well as other variables) and OCB. For example, some would argue that cooperation and altruism are feminine values (Hofstede, 1980) and therefore suggest gender as a potential moderator of the relationship between work attitudes and OCB. Others would contend that some work settings—for example, health care institutions—tend to screen participants, whether by self-selection or otherwise, on the basis of certain personal qualities that might predispose them to OCB (e.g., Holland, 1985) and thus we might expect to find that occupation or work setting moderates the effects of contextual work attitudes on OCB.

However, it would seem prudent to restrain our proliferation of moderators of correlates of OCB until we have either a stronger theoretical basis for a priori specification of the specific moderators or a confident empirical basis for supposing that moderators exist. Meta-analysis, by taking account of sampling error and other artifactual sources of variance in correlations, could provide some clue as to the utility of both theoretical and empirical work on moderators in the prediction and explanation of OCB.

A third argument for meta-analysis of correlates of OCB arises from the growing emphasis on social justice as the fundamental basis of participants’ inclinations toward OCB. Organ (1988, 1990) and Organ and Moorman (1993) have argued that measures of job satisfaction reflect more of a respondent’s cognitive assessments of the work context than affective mood state. They contend that these cognitive assessments have mainly to do with conceptions of fairness. This reasoning leads to the hypothesis that explicit measures of fairness should do better than
job satisfaction measures in predicting OCB and suggests that job satisfaction should predict OCB only to the extent that it contains or reflects judgments about fairness, (i.e., satisfaction should be unrelated to OCB when controlling for fairness perceptions). Some studies (Farh, Podsakoff, & Organ, 1990; Organ & Konovsky, 1989) have offered indirect evidence consistent with this hypothesis, and others (e.g., Moorman, 1991) have tested it directly with supportive findings. However, meta-analysis should provide a more telling comparison of estimates of these relationships.

A fourth reason justifying a meta-analysis of correlates of OCB has to do with dispositional variables. If personality factors account in considerable measure for differences in job attitudes as indicated by Staw and Ross (1985) and Staw, Bell, and Clausen (1986), it is possible that these are the same dispositional constructs that could account for OCB. Perhaps, then, these personal qualities "explain" the relationship between attitudes and OCB, (i.e., that attitudes and OCB are related only to the extent that both devolve from personality factors). Two studies (Konovsky & Organ, 1995; Organ & Lingl, 1995) have tested this hypothesis in regard to two of the "Big Five" (McCrae & Costa, 1987) dimensions, conscientiousness and agreeableness, and found no support for it, but once again the role of sampling error in individual studies precludes a confident conclusion. Meta-analysis should permit a more judicious assessment of the correlations of various personality measures with OCB and how they compare with attitudinal predictors. Such a comparison would pose important implications for the utility of personnel selection systems in determining the levels of OCB in an organization.

Finally, we need to know if it makes much difference in the results if OCB is measured by other-ratings or self-ratings. One could argue that much OCB might escape the notice of supervisors (the usual source of other-ratings of OCB) or even peers, and therefore be known only to the individual. Our position, however, is that because ratings of OCB are inherently subjective, ratings of a person's own OCB are a poor substitute for independent judgments. Also, studies that use self-ratings of OCB along with self-reports of dispositional and attitudinal variables invite spuriously high correlations confounded by common method variance. Nevertheless, given Crampton and Wagner's (1994) conclusion that inflation due to self-reports varies according to the domain of research, this issue warrants empirical test in the case of OCB.

To summarize, we offer five hypotheses that should be testable from the accumulated empirical work on OCB (for ease of exposition we refer to "OCB" as singular, even though multiple dimensions have been studied, because we expect directions of relationships to be similar across those dimensions):
Hypothesis 1: Measured contextual attitudes such as job satisfaction, perceived fairness, leader supportiveness, and commitment will correlate positively with OCB and to a greater extent than with measures of in-role performance.

Hypothesis 2: Characteristics of subjects and work settings will moderate the relationship between work attitudes and OCB. (This assertion is intended as an exploratory research question. We are not convinced that any specific moderator candidate derives from a strong, a priori theoretical basis. However, it is possible in meta-analysis to use “omnibus” tests for unspecified moderators without having an a priori theoretical basis, and that is the approach used here. Given the potential number of moderators that might exist, plus stylistic norms for stating hypotheses, we present this hypothesis in the non-null form.)

Hypothesis 3: The mean estimated population correlation between explicit measures of fairness and OCB is stronger than that between satisfaction and OCB.

Hypothesis 4: Mean estimated population correlations between personality measures and OCB are greater than those between attitudes and OCB.

Hypothesis 5: Mean estimated population correlations between predictors and OCB are moderated by self-versus other-ratings of the OCB criterion, with self-ratings producing higher relationships due to common method variance.

Method

Literature search. First we conducted a manual search of four major journals (Journal of Applied Psychology, Academy of Management Journal, Personnel Psychology, Organizational Behavior Human Decision Processes), for the years 1983-1994 in order to identify articles reporting research on OCB or closely related phenomena (e.g., extra-role behavior) much akin to OCB. We began with 1983 because that year marked the first known instance in which OCB was treated as a distinct variable and measured in a form that has become somewhat standardized. Journal search was augmented by a computerized bibliographic search using Knowledge Index and its various databases of psychological, social science, and business research. Key words in the search included “organizational citizenship behavior,” “prosocial organizational behavior,” “altruism,” “helping,” and “extra-role behavior.” This procedure identified articles in other journals and some unpublished dissertations on the topic. Finally, direct letters were sent to authors of unpublished dissertations located in the bibliographic search, as well as to other individuals who we had some reason (because of citations in published papers, presentations at conferences, unsolicited manuscripts sent to the
first author or to colleagues, and hearsay) to believe had conducted re-
search on OCB or something near-synonymous with OCB.

From the studies available as of December 1994, two independent
raters coded information as to the following: the nature of the OCB
measure used, as well as whether it was of self-rating or other-rating
form; variables treated as predictors (i.e., antecedents) of OCB rather
than consequences of OCB (e.g., global ratings of performance); means,
standard deviations, and estimated reliabilities of the OCB measure(s);
mean age of the subjects; mean tenure of subjects; gender composition
of subjects (those subject groups described as greater than 65% male
or female, or mixed); occupational group (managerial, clerical, technical/
professional, manufacturing, sales, student, or mixed/indeterminate);
and the various predictors, the forms of measurement of the predictors,
and their reliabilities.

Levels of agreement between the two raters were checked for 25
studies reported in 20 articles or papers for data concerning OCB and
satisfaction. Complete agreement was attained for information on ten-
ure, age, and gender of the sample, as well as self versus other-rating of
OCB. Agreement was 84% on the satisfaction measure; the discrep-
ancies involved one instance of whether the satisfaction measure was too
narrow (satisfaction with most recent pay raise) and three instances of
disagreement over how multiple measures should be used. Agreement
was 92% on the OCB measure; the two cases of disagreement dealt with
whether the OCB criterion used was essentially altruism or an overall
measure of OCB. Agreement was 80% on the occupational grouping
of the sample. Disagreements were resolved by discussing and refining
rules for classifying measures.

Criteria for inclusion. We used the following rules for selecting empi-
rical relationships to be used in the meta-analysis: First, we included only
those findings having to do with somewhat general, aggregative mea-
sures of OCB or some dimension of OCB. Thus, we excluded three stud-
ies (two of them laboratory experiments) involving highly specific forms
of OCB. Although studies investigating narrowly defined exemplars of
OCB are of interest in their own right, we felt that it would be inap-
propriate analytically to mix studies with criteria of grossly differing levels
of generality. Also, we followed the reasoning of Epstein (1980), who
argued that the correct criterion for an attitudinal and personality vari-
able is not any one specific behavior, but an aggregate of thematically
related behaviors across time and situations. By the same reasoning, we
also excluded three studies in which a predictor variable was based on a
narrowly defined referent, such as satisfaction with most recent pay raise
or satisfaction with recent job transfer. Second, as an arbitrary rule, we
decided to retain for the meta-analysis only those correlations representing data from at least four independent studies. Our reasoning was that fewer independent studies would represent insufficient variation in potential moderators to make for an interesting finding.

Measures: OCB. The majority of the studies used some variation of the Smith et al. (1983) measure of OCB, and most of those that did so reported the same two component factors: altruism, representing those forms of OCB that provide aid to a specific person, such as a coworker; and compliance, which pertains to more impersonal contributions to the organization in such forms as exemplary attendance, use of work time, respect for company property, and faithful adherence to rules about work procedures and conduct. When these two factors were identified as such, they were subjected to separate meta-analyses. If the measure was treated as one general or overall OCB, but more than three-fourths of the items strongly implied one or the other factor (typically altruism), it was included in the meta-analysis of that factor only. If an OCB measure was treated as one factor and included items connoting both factors, it was simply assigned to a separate analysis of one-factor measures of OCB. More recent studies have investigated additional OCB factors as described in Organ (1988): courtesy, or gestures taken to help prevent problems of work associates; sportsmanship, which is a demonstration of willingness to forbear minor and temporary personal inconveniences and impositions without fuss, appeal, or protest (thus conserving organizational energies for task accomplishments); and civic virtue (Graham, 1986), or responsible and constructive involvement in the issues and governance of the organization. When research reported factor analytic support for treating these dimensions as distinct and separate criteria, the respective correlations were also entered into separate meta-analyses (provided they met minimum criteria for number of studies).

In three instances, we encountered multiple-factor measures of OCB whose factors bore no obvious resemblance to the factors described above. We did not include those studies in the analysis. We also found studies using variations of the Smith et al. (1983) measure in which two or three items, with little consistency in terms of item content, loaded on a "residual" or "miscellaneous" factor. We chose not to submit correlations involving such measures to meta-analysis, because we had little faith in the interpretability of the referents.

Satisfaction. Correlations reported between OCB and a measure of overall or global job satisfaction were used. From studies reporting correlations with two or more facets of job satisfaction, but also a total job satisfaction score, the correlations with total scores were selected. From a few studies that reported correlations involving two or more measures of facet (e.g., pay, supervision, intrinsic, extrinsic) satisfaction, but no
correlations with total scores, we combined the correlations with facet measures by means of a statistical formula (Hunter & Schmidt, 1990, p. 457) and computed the reliability of the composite measure using the procedures described by Nunnally (1967) for estimating the reliability of a composite measure. Thus, only one correlation per independent study entered into any one meta-analysis.

*Fairness.* Most of the studies addressing fairness and OCB attempted to measure distributive fairness and procedural fairness separately, and some used a third measure of "interactional fairness." Because these measures, when used separately, were always substantially intercorrelated and because some studies did not try to break fairness into components, we computed correlations between OCB and overall fairness, using the same procedures described above for estimating the relationship between OCB and a composite predictor. Also, we used data from a few studies that reported only on distributive or procedural fairness, given the invariably high correlation found between them. If results of the meta-analysis warranted it, the proper test could be made to see if differences in fairness measures moderated the relationship.

*Organizational commitment.* Submitted to meta-analysis were those correlations between OCB and either an overall commitment score (if no breakdown by commitment dimension was given) or affective commitment. Also, separate analyses were conducted for affective and continuance commitment when these were measured separately.

*Leader supportiveness.* In the studies reviewed, measures of leader supportiveness and leader consideration were treated as synonymous. The measures were in all cases scales widely in use and well established in the leadership research literature.

*Conscientiousness.* This label describes one of the Big Five personality factors (McCrae & Costa, 1987). In the studies reviewed, some researchers used a measure (or some variation thereof) developed by McCrae and Costa designed to capture this dimension. However, some OCB researchers used measures of constructs which, though different in name, would seem to have much in common with conscientiousness. These constructs included need for achievement and achievement-striving. We treated these constructs and their measures as synonymous for purposes of meta-analysis, because McCrae and Costa (1987) indicate that conscientiousness subsumes precisely those differences keyed by items in a number of measures, such as the Jenkins Activity (Jenkins, Zyzanski, & Rosenman, 1979) subscale, for indexing achievement-striving.

*Agreeableness.* This term represents a second dimension of the Big Five. In all of the available studies assessing the relationship between
this dimension of personality and OCB, McCrae and Costa's (1987) scale, or some adaptation of it, was used.

**Negative affectivity.** Measures expressly designed to capture the general concept of negative affect as a trait (Watson & Clark, 1984), but also measures of neuroticism, trait anxiety, and the impatience-irritability subscale of the Jenkins Activity Survey measure of Type A syndrome (Jenkins et al., 1979) were treated as sufficiently synonymous for a common meta-analysis. Watson and Clark (1984) have indicated that an array of measures of such traits as anxiety, neuroticism, emotional instability, and irritability have broad overlap within a core construct of negative affectivity.

**Positive affectivity.** Grouped with those studies that used Watson, Clark, and Tellegen's (1988) measure of positive affect as a trait were two other studies using a measure of extraversion. Watson and Clark (1992) have argued that extraversion, within the Big Five framework, is an effective marker for positive affectivity.

**Tenure.** The intent was to use sample descriptive data concerning tenure as a potential means to account for unexplained variance in correlations between OCB and attitudinal or personality variables. Additionally, one could make the case that OCB, or some forms of it, might be a function of tenure. Surprisingly, though, few studies reported correlations between OCB and individual tenure on the job or with the organization, although almost all studies reported average tenure of the group studied. Using those few studies that did report correlations at the individual level, we conducted a meta-analysis.

**Gender.** As with tenure, the expectation was that gender might be a promising candidate for a moderator variable to account for variance in correlations not ascribable to artifact. Again, one could argue that gender itself is a predictor, citing reasons why women might be expected to render more of various forms of OCB, especially the altruism and courtesy factors. But, as was true with tenure, few studies actually reported correlations with gender or a t or F test of differences in OCB between men and women, although virtually all studies reported the percentage breakdown by gender. Where individual correlations were reported, we used them; when exact ts or Fs were reported, we transformed them into equivalent t's.

**Procedure.** We followed procedures developed by Hunter and Schmidt (1990), Raju, Burke, Normand and Langlois (1991), and Osburn and Callender (1992) for conducting the various meta-analyses. For each bivariate correlation of interest, we computed sample-sized weighted raw correlations. We also computed correlations corrected individually for unreliability (in all but a very few studies, sufficient information reporting coefficient alpha, or enabling us to compute it in the
case of aggregative correlations, was available; in the few instances not
providing this data, we used the method developed by Raju et al., for
reliability estimates from the available data) in both the predictor and
criterion. Ideally, we would have corrected the correlations for the arti-
fact of range restriction of the criterion, OCB. However, we could devise
no a priori specification of what a “normal” or “natural” range of vari-
ation of OCB should be. OCB ratings, whether from self or others, tend
to be skewed toward the “good” or “high” side, but we cannot say with
conviction that this is an artifact.

What we chose to do was not to correct for this property directly,
but rather compute a coefficient of variation (mean divided by standard
deivation) for the OCB measure in question and use this calculation to
make an arbitrary division between “high variability” and “low variabil-
ity” (based on median split) subject groups on the OCB measure; thus,
in those instances in which sufficient variation in correlations remained
after corrections for sampling error and reliability, it would be possible
to test for the effect of high versus low variability as a moderator.

We computed a 95% confidence interval for the estimation of the
uncorrected population coefficient using the average uncorrected cor-
relation and Osburn and Callender’s (1992) procedure for deriving an
estimate of the sampling error of the uncorrected mean correlation. Fol-
lowing Osburn and Callender’s recommendation, we conservatively as-
sumed the heterogeneous condition. Because three of our hypotheses
(H3, H4, and H5) are stated with respect to comparisons between mean
population correlation estimates, the methods of Raju et al. (1991), as
employed by Finkelstein, Burke, and Raju (1995), were used to derive
mean population corrected correlations estimates (ρ) and the standard
errors of such estimates, as well as the 95% confidence intervals of such
estimates.

For the purpose of testing for moderators, we followed the Hunter
and Schmidt (1990) procedures for computing percentage of variance
in individually-corrected correlations explained by the artifacts of sam-
pling error and unreliability. According to Hunter and Schmidt, a rea-
sonable rule is that if 75% of the variance in correlations is attributable
to artifacts of unreliability, range restriction, and sampling error, the re-
mainning variance is likely due to other artifacts, such as clerical errors.
Because we did not correct individual correlations for range restriction,
we used 65% as our guideline (Hom, Caranikas-Walker, Prussia, & Grif-
feth, 1992, by comparison, used a 60% measure when they were able to
correct only for sampling error and unreliability). Also, the 90% cred-
ibility interval around the sample-weighted mean corrected correlation
was computed. A wide interval would suggest the presence of moderators. Finally, Hunter and Schmidt’s (1990) Q statistic of variance in corrected correlations was computed and tested for significance. Hunter and Schmidt’s Q statistic is said to be appropriate as an omnibus test for moderators; it is described as having lower statistical power than the test for a specific, hypothesized moderator (Hunter & Schmidt, 1990). We used their test because, although some specific candidates for moderators have been posed, they have either been mentioned in post-hoc discussion of findings or have been offered in casual fashion rather than strenuous theoretical analysis. The 75% rule (65% here) has been found to have relatively high (compared to $\chi^2$ tests) statistical power, according to Sackett, Harris, and Orr (1986), especially with small (< 64) numbers of studies. We felt that using all three analyses to assess the likelihood of moderators seemed reasonable. The three procedures for assessing the likelihood of moderators produced virtually identical results. No Q statistic was significant at $p < .05$ when 60% or more of the variation in correlations was attributable to artifacts; conversely, in every case in which the proportion variance due to artifacts was less than 53%, the Q statistic was significant. Thus, in the interests of conserving space, the tables below report only the percentages of variance explained by artifacts.

When evidence suggested the presence of moderators, the first moderator tested was source of OCB rating (other- versus self-rating). Additional moderators were examined only if the analysis of correlations involving other-ratings continued to suggest the presence of moderators. Our assumption was that self- versus other-rating was unlikely to be confounded with more substantive moderators, such as type of work setting.

**Results**

**Altruism.** Table 1 presents the results of the meta-analysis for predictors of OCB in the form of altruism. As predicted, there is a modest overall correlation between satisfaction and altruism. The uncorrected $r$ of .24 (.23 when eliminating self-ratings) exceeds the .15 obtained by Iaffaldano and Muchinsky’s (1985) meta-analysis of job satisfaction and performance; moreover, the 95% confidence interval for satisfaction and altruism (.20 to .27) does not overlap with that derived from Iaffaldano and Muchinsky’s data (.123–.169). The value found here does not exceed that of .23 found by Petty, McGee, and Cavender (1984), whose review was based only on studies conducted since Vroom’s (1964) prior review and using an overall measure of job satisfaction.
<table>
<thead>
<tr>
<th>TABLE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meta-Analysis of Correlates of Altruism</td>
</tr>
<tr>
<td>(In Parentheses: Analysis Excluding Studies with Self-ratings of Altruism)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>k</td>
<td>N</td>
<td>N-wtd uncorr.</td>
<td>( M_\rho )</td>
<td>Sam. error</td>
<td>( V_\rho )</td>
<td>SE</td>
<td>% var. due to artif.</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>28</td>
<td>6,746</td>
<td>.237</td>
<td>.282</td>
<td>.005</td>
<td>.010</td>
<td>.013</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>(22)</td>
<td>(5,549)</td>
<td>(.226)</td>
<td>(.259)</td>
<td>(.005)</td>
<td>(.002)</td>
<td>(.014)</td>
<td>(66.1)</td>
</tr>
<tr>
<td>Fairness</td>
<td>20</td>
<td>3,313</td>
<td>.185</td>
<td>.238</td>
<td>.009</td>
<td>.006</td>
<td>.022</td>
<td>61.9</td>
</tr>
<tr>
<td>Commitment</td>
<td>11</td>
<td>2,648</td>
<td>.200</td>
<td>.247</td>
<td>.006</td>
<td>.002</td>
<td>.025</td>
<td>73.1</td>
</tr>
<tr>
<td>Affective</td>
<td>5</td>
<td>1,071</td>
<td>.192</td>
<td>.226</td>
<td>.006</td>
<td>none</td>
<td>.035</td>
<td>100.0</td>
</tr>
<tr>
<td>Continuance</td>
<td>4</td>
<td>754</td>
<td>.007</td>
<td>.010</td>
<td>.009</td>
<td>none</td>
<td>.047</td>
<td>100.0</td>
</tr>
<tr>
<td>Leader consideration</td>
<td>8</td>
<td>3,062</td>
<td>.261</td>
<td>.319</td>
<td>.003</td>
<td>.027</td>
<td>.019</td>
<td>9.7</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
<td>(2,562)</td>
<td>(.234)</td>
<td>(.271)</td>
<td>(.003)</td>
<td>(.011)</td>
<td>(.021)</td>
<td>(19.2)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>11</td>
<td>2,172</td>
<td>.161</td>
<td>.217</td>
<td>.007</td>
<td>.082</td>
<td>.026</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>(7)</td>
<td>(1,231)</td>
<td>(.041)</td>
<td>(.043)</td>
<td>(.010)</td>
<td>(.003)</td>
<td>(.037)</td>
<td>(76.2)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>6</td>
<td>916</td>
<td>.098</td>
<td>.127</td>
<td>.011</td>
<td>.003</td>
<td>.041</td>
<td>80.0</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>6</td>
<td>1,201</td>
<td>.051</td>
<td>.064</td>
<td>.007</td>
<td>.002</td>
<td>.034</td>
<td>76.4</td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>7</td>
<td>1,021</td>
<td>.121</td>
<td>.152</td>
<td>.010</td>
<td>.011</td>
<td>.035</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>(5)</td>
<td>(869)</td>
<td>(.077)</td>
<td>(.080)</td>
<td>(.009)</td>
<td>(.007)</td>
<td>(.042)</td>
<td>(55.4)</td>
</tr>
<tr>
<td>Tenure</td>
<td>4</td>
<td>717</td>
<td>.056</td>
<td>.062</td>
<td>.007</td>
<td>.001</td>
<td>.040</td>
<td>91.8</td>
</tr>
<tr>
<td>Gender</td>
<td>5</td>
<td>1,110</td>
<td>.024</td>
<td>.026</td>
<td>.005</td>
<td>.004</td>
<td>.032</td>
<td>59.6</td>
</tr>
</tbody>
</table>

Key to column headings: 1: k = no. of studies in analysis; 2: N = sum of all samples in the analysis; 3: sample-weighted mean uncorrected \( \rho \); 4: sample-weighted mean estimate of \( \rho \); 5: sampling error variance; 6: variance in estimate of \( \rho \); 7: standard error of mean estimate of \( \rho \); 8: percentage of variance due to artifact; 9: 95% confidence interval around mean estimate of \( \rho \).
All three indices of population variance in correlations indicated the presence of moderated relationships, prompting a reanalysis on studies grouped according to self- versus other-rating of the altruism measure. When only other-ratings were submitted to the analysis, none of the three indices supported the existence of additional moderators. Interestingly, the effect of including self-ratings in the analysis was not only, as expected, the inflation of the mean correlation (with a mean $\rho$ estimate of .394, versus .259 for independent ratings, and a corresponding $z$ of 4.08, $p < .01$), but also inflation of the variance in correlations. In a separate meta-analysis of studies using self-reports (not shown in Table 1), sampling error accounted for only 12% of the variance in corrected $r$s, and the Q statistic of 40.4 was significant at $p < .01$. The difference between other-rating and self-rating studies in mean estimated corrected population correlation coefficient is .14, exceeding the .10 value that Hunter and Schmidt (1990) offered as a heuristic for substantive importance of a hypothesized moderator.

Contrary to prediction, meta-analysis did not show fairness to be a better predictor of altruism than was satisfaction. Indeed, the mean corrected $r$ for fairness is somewhat lower than that for satisfaction, but the 95% confidence intervals overlap substantially. None of the indices of population variance suggested the presence of moderators. Two of the studies used in the analysis used self-report measures of altruism; deleting those studies altered the results only marginally.

Analysis of correlations between organizational commitment and altruism yielded results comparable to those involving fairness, with no indication of moderated relationships. Separate analyses of affective and continuance commitment confirm that only affective commitment is related to altruism.

Somewhat stronger was the relationship between leader supportiveness and altruism. Here, however, there was a strong suggestion of moderator effects, even when excluding the two studies that used self-ratings. Studies did not differ sufficiently in the mean age and tenure of subject groups to use those variables in a meaningful subgroup analysis. However, because five studies were on predominantly male subject groups (two were mainly female, one mixed), a separate analysis was done for males. Results still suggested the presence of moderators, with only 10% of the variance in corrected correlations accounted for by sampling error and a Q statistic of 50.9 ($p < .01$).

None of the dispositional variables—conscientiousness, agreeableness, negative and positive affectivity—demonstrate the level of association with altruism exhibited by the attitudinal measures; contrary to hypothesis, the mean estimate $\rho$ for satisfaction and altruism was significantly higher than that for any dispositional variable and altruism.
(all $z$s $> 2.23$, $p < .05$). Conscientiousness approaches that level, but only when including studies using self-reports of altruism, and the analysis suggests that use of self-reports acts as a moderator which inflates the level of association (mean $\rho$ for self-ratings $=.449$, for independent ratings $=.043$, $z = 7.97$, $p < .01$).

There is no indication that tenure with organization or gender has any appreciable connection with altruism, at least from the sparse information available in studies reviewed. Although the analysis is based on only those few studies providing sufficient information, the results are consistent with the inference that other studies did not provide the data because these demographic factors did not account for sufficient variation in OCB to warrant reporting them as predictors.

**Generalized compliance.** By and large, one finds here the same trend of association with respect to attitudinal and dispositional variables. Again, the 95% confidence interval for the mean uncorrected correlation shows no overlap with that of Iaffaldano and Muchinsky (1985), for example, the mean $r$ here of .222 exceeds their value (across all measures of satisfaction) of .155 and the 95% confidence interval for the mean uncorrected $r$ for satisfaction and generalized compliance is .18 to .25. There is no support for supposing that measures of fairness predict the impersonal form of OCB better than satisfaction measures ($z = -.263$, ns). As was the case with altruism, it appears that use of self-report measures of OCB is a moderator of the relationship between satisfaction and compliance, inflating both the mean $\rho$ estimate (.504 vs. .243; $z = 5.93$, $p < .01$) and, particularly, the variance in correlations. There is also the suggestion that self-report measurement of OCB moderates the relationship between the other attitudinal measures and generalized compliance; the differences are significant at $p < .05$ for fairness and organizational commitment as well. Again, the indication is that affective commitment, but not continuance commitment, is related to compliance. Evidence suggests that self- versus other-rating also moderates the linkage between conscientiousness and generalized compliance (studies with self-ratings yielded a mean $\rho$ estimate of .467 versus .228 for other-ratings; $z = 3.73$, $p < .01$). However, in contrast to the analysis of correlates of altruism, conscientiousness comes close to the attitudinal measures in predicting generalized compliance, even when excluding studies using self-reports for both the predictor and OCB.

The meta-analyses give some suggestion that, in addition to self-report measures, other factors might moderate the relationship between fairness and compliance. However, no evidence could be found that subject group differences in age, tenure, gender composition, rank, or restriction of range in OCB exert the moderating effect.
### TABLE 2

**Meta-Analysis of Correlates of Generalized Compliance**

*(In Parentheses: Analysis Excluding Studies with Self-Ratings of Altruism)*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3 N-wide</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>uncorrected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>25</td>
<td>5,975</td>
<td>.216</td>
<td>.275</td>
<td>.006</td>
<td>.100</td>
<td>.015</td>
<td>43.2</td>
</tr>
<tr>
<td>(20)</td>
<td>(5189)</td>
<td>(.196)</td>
<td>(.243)</td>
<td>(.006)</td>
<td>(.001)</td>
<td>(.016)</td>
<td>(.010)</td>
<td>(.211 to .275)</td>
</tr>
<tr>
<td>Fairness</td>
<td>15</td>
<td>2,690</td>
<td>.221</td>
<td>.268</td>
<td>.007</td>
<td>.011</td>
<td>.022</td>
<td>39.2</td>
</tr>
<tr>
<td>(11)</td>
<td>(2192)</td>
<td>(.200)</td>
<td>(.236)</td>
<td>(.006)</td>
<td>(.007)</td>
<td>(.025)</td>
<td>(.016)</td>
<td>(.187 to .285)</td>
</tr>
<tr>
<td>Org. commitment</td>
<td>10</td>
<td>2,671</td>
<td>.242</td>
<td>.316</td>
<td>.005</td>
<td>.021</td>
<td>.025</td>
<td>20.6</td>
</tr>
<tr>
<td>(6)</td>
<td>(1992)</td>
<td>(.217)</td>
<td>(.255)</td>
<td>(.004)</td>
<td>(.016)</td>
<td>(.027)</td>
<td>(19.2)</td>
<td>(.203 to .308)</td>
</tr>
<tr>
<td>Affective</td>
<td>4</td>
<td>943</td>
<td>.246</td>
<td>.296</td>
<td>.006</td>
<td>none</td>
<td>.036</td>
<td>100.0</td>
</tr>
<tr>
<td>Continuance</td>
<td>3</td>
<td>626</td>
<td>.039</td>
<td>.053</td>
<td>.007</td>
<td>.021</td>
<td>.051</td>
<td>25.4</td>
</tr>
<tr>
<td>Leader supportiveness</td>
<td>8</td>
<td>3,062</td>
<td>.274</td>
<td>.348</td>
<td>.003</td>
<td>.024</td>
<td>.026</td>
<td>11.7</td>
</tr>
<tr>
<td>(6)</td>
<td>(2,362)</td>
<td>(.246)</td>
<td>(.291)</td>
<td>(.003)</td>
<td>(.002)</td>
<td>(.022)</td>
<td>(.006)</td>
<td>(.248 to .333)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>10</td>
<td>1,812</td>
<td>.212</td>
<td>.302</td>
<td>.009</td>
<td>.025</td>
<td>.030</td>
<td>26.0</td>
</tr>
<tr>
<td>(7)</td>
<td>(1,331)</td>
<td>(.170)</td>
<td>(.228)</td>
<td>(.009)</td>
<td>(.004)</td>
<td>(.036)</td>
<td>(.036)</td>
<td>(.156 to .298)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>6</td>
<td>916</td>
<td>.064</td>
<td>.167</td>
<td>.011</td>
<td>none</td>
<td>.042</td>
<td>100.0</td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>5</td>
<td>934</td>
<td>.060</td>
<td>.065</td>
<td>.011</td>
<td>.010</td>
<td>.042</td>
<td>52.4</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>5</td>
<td>847</td>
<td>-.092</td>
<td>-.118</td>
<td>.009</td>
<td>.005</td>
<td>.042</td>
<td>64.7</td>
</tr>
<tr>
<td>Tenure</td>
<td>5</td>
<td>871</td>
<td>.024</td>
<td>.026</td>
<td>.007</td>
<td>.001</td>
<td>.038</td>
<td>86.8</td>
</tr>
<tr>
<td>Gender</td>
<td>4</td>
<td>756</td>
<td>-.065</td>
<td>-.074</td>
<td>.007</td>
<td>.011</td>
<td>.040</td>
<td>32.9</td>
</tr>
</tbody>
</table>

**Key to column headings:**
1: k = no. of studies in analysis; 2: N = sum of all samples in the analysis; 3: sample-weighted mean uncorrected r; 4: sample-weighted mean estimate of ρ; 5: sampling error variance; 6: variance in estimate of ρ; 7: standard error of mean estimate of ρ; 8: percentage of variance due to artifact; 9: 95% confidence interval around mean estimate of ρ.
Other measures of OCB. Satisfaction, fairness, and organizational commitment were the only correlates of single-factor measures of OCB in a sufficient number of studies to meet our rule of at least four independent studies. The patterning of correlations is similar to that obtained with measures of altruism and compliance, though slightly lower in absolute terms. The findings suggest the presence of moderators in the case of satisfaction and OCB. However, one should note that five of the seven studies involved used self-report measures for both OCB and satisfaction. Also, analysis of the four studies involving organizational commitment and a single-factor measure of OCB is dominated by one study (Pierce, Gardner, Cummings, & Dunham, 1989) that accounted for nearly 80% of the total n.

Correlations with other OCB dimensions—courtesy, sportsmanship, and civic virtue—included only satisfaction as a predictor in sufficient number of studies to meet our criterion. The correlations hover at a level similar to those of the analyses above. The indication is that civic virtue is somewhat less related than other OCB measures to satisfaction. In none of these instances do we see indications of moderated effects. However, given the small number of studies examined, one cannot be sure that the range of settings or subject groups is yet sufficient to disclose such effects.

Discussion

Satisfaction and OCB versus satisfaction and in-role performance. The evidence from the collective body of data supports a modest overall relationship between job satisfaction and various measures of organizational citizenship behavior. One could argue that the effect size, although larger than that of satisfaction and performance as reported by Iaffaldano and Muchinsky (1985), is no different than that found in a different review of satisfaction and performance (Petty, McGee & Cavender (1984). However, in making comparisons with the latter review, several considerations are in order. Petty et al. looked only at studies reported since Vroom's (1964) review and studies that reported findings for an overall measure of job satisfaction or for the Job Descriptive Index (JDI: Smith, Kendall, & Hulin, 1969). Also, they found sizable differences in the correlations depending on whether the subject group was nonmanagerial/nonprofessional (.15; corrected, .20) or managerial/professional (.31; corrected, .41). Studies of OCB are predominantly of nonmanagerial/nonprofessional groups. As Organ (1988) noted, job descriptions for higher level positions are more open-ended and make it more difficult to distinguish between in-role performance and OCB. Also, MacKenzie, Podsakoff, and Fetter (1991) found that
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>9</td>
<td>2,845</td>
<td>.226</td>
<td>.284</td>
<td>.004</td>
<td>.013</td>
<td>.022</td>
<td>24.4</td>
<td>.241 to .327</td>
</tr>
<tr>
<td>and single-factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>4</td>
<td>1,614</td>
<td>.184</td>
<td>.234</td>
<td>.003</td>
<td>none</td>
<td>.030</td>
<td>100</td>
<td>.172 to .290</td>
</tr>
<tr>
<td>and single-factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>5</td>
<td>2,446</td>
<td>.196</td>
<td>.241</td>
<td>.003</td>
<td>none</td>
<td>.024</td>
<td>100</td>
<td>.195 to .287</td>
</tr>
<tr>
<td>and Courtesy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>5</td>
<td>2,446</td>
<td>.160</td>
<td>.207</td>
<td>.003</td>
<td>none</td>
<td>.025</td>
<td>100</td>
<td>.157 to .257</td>
</tr>
<tr>
<td>and Civic Virtue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>5</td>
<td>2,446</td>
<td>.228</td>
<td>.278</td>
<td>.003</td>
<td>none</td>
<td>.023</td>
<td>100</td>
<td>.233 to .324</td>
</tr>
<tr>
<td>and Sportsmanship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key to column headings:
1: \( k \) = no. of studies in analysis;
2: \( N \) = sum of all samples in the analysis;
3: sample-weighted mean uncorrected \( r \);
4: sample-weighted mean estimate of \( r \);
5: sampling error variance; 6: variance in estimate of \( r \);
7: standard error of mean estimate of \( r \);
8: percentage of variance due to artifact;
9: 95% confidence interval around mean estimate of \( r \).
performance ratings of sales managers were determined more by assessment of OCB contributions than by objective sales indices (even when adjusted for a possible effect of common method variance on the relationship between performance ratings and OCB assessments). Thus, one might expect to find that the difference in effect size of the relationship between satisfaction and OCB, versus satisfaction and performance, will be larger for lower-level positions than for higher ranks. Or, stated differently, the relationship between satisfaction and OCB for lower-level jobs will approximate the relationship between satisfaction and overall performance for higher levels.

The Iaffaldano and Muchinsky (1985) review was the more inclusive review of satisfaction-performance correlations, with a total sample of over 12,000 versus the 3,140 represented by Petty et al. Iaffaldano and Muchinsky not only covered a much longer time period, they also—as in our review of OCB—included studies with fragmented measures of satisfaction. The comparison of their findings with those obtained here is perhaps more telling than the comparison with Petty et al. Also worthy of note is that the Iaffaldano and Muchinsky review included a considerable portion of studies using subjective and/or unidimensional criteria of performance; moreover, those measures of performance were associated with higher correlations. Considering the findings of Mackenzie et al. (1991), Motowidlo and Van Scotter (1994), and Borman, White, and Dorsey (1995), one must assume that Iaffaldano and Muchinsky’s analysis was based on measures of performance that included varying amounts of OCB and that their estimates would have been lower without such effects.

Also, remember that the meta-analyses here, with the exception of the one based on six studies of single-factor OCB measures, have to do with specific dimensions of OCB—altruism, generalized compliance, courtesy, sportsmanship, and civic virtue. If one treats these dimensions as separate indicators and aggregates them into an overall OCB measure, using uncorrected sample-weighted mean correlations for each indicator, the correlation between satisfaction and the composite OCB is .38. If this value is corrected for reliability of measurement, the correlation is .44.

In sum, the evidence provides some support for the hypothesis that measures of OCB will be more related to satisfaction than would in-role performance, with the qualification that this applies mainly to nonmanagerial, nonprofessional employees.

Are there moderators? With respect to the second hypothesis, the potential role of moderators in correlations of variables with OCB, the impression one derives from the meta-analyses is that the most telling moderator is use of self-reports versus other-ratings of OCB (further
discussed below), rather than age, tenure, gender, rank, or type of work. This is especially true of correlations involving satisfaction, which appears in the largest number of studies and therefore probably includes the greatest variation in characteristics of subject groups and work settings. Future studies of moderated relationships between OCB and attitudinal predictors would seem to require a rather cogent and coherent theoretical position.

Is there an "m" factor involved? The analysis fails to support the view that fairness, or any other attitudinal measure, is a "superior" predictor of OCB. Indeed, one is struck by the roughly comparable effect sizes found with satisfaction, fairness, organizational commitment, and leader supportiveness. The relationships do not encourage any supposition that any one of them mediates the effect of the others, or that any one of them "accounts for" the relationships between the others and OCB. One should remember, however, that these four predictors tend to be highly correlated with each other (e.g., Wofford & Liska, 1993) report a mean uncorrected $r$ of .55 between leader consideration and overall satisfaction; Mathieu and Zajac, (1990) found overall job satisfaction and commitment correlated at .49; studies included in our meta-analysis that measured both fairness and satisfaction showed an average correlation of .55 between them). We do not suggest that these measures lack discriminant validity and therefore "measure the same thing." But it is conceivable that such measures overlap to the extent of all capturing something analogous to the "g" (general) factor in measures of mental ability. And perhaps this $g$ factor represents something akin to "morale," or an "m" factor. In other words, if morale is taken to be a basic psychological state vis-a-vis the workplace, then possibly any work-relevant attitudinal measure—whatever its specific focus or semantic content—will reflect to some degree that psychological state.

Dispositional predictors of OCB. Although various measures of contextual work attitudes demonstrate quite robust connections to OCB measures, the same cannot be said of dispositional measures. Not only do such measures fail to "explain" the connection between attitudes and OCB, it appears more likely that the reverse is true (for example, that attitudes account for any connection between disposition and OCB). Such a view commands some plausibility. Traits such as agreeableness, positive affectivity, negative affectivity, and conscientiousness probably predispose people to certain orientations vis-a-vis coworkers and managers. And those orientations might well increase the likelihood of receiving treatment that they would recognize as satisfying, supportive, fair, and worthy of commitment. Furthermore, to the extent that attitudinal measures inherently tap recurrent affective states, personality factors that
augment the affect of the work situation could be seen as indirect contributors to OCB, rather than “direct” causes of OCB. This view has been articulated by George (1991) and George and Brief (1992) and is consistent with the patterning of the data here.

The findings here lead us to propose the following: If ability is the single best predictor of task or in-role performance, and if—as Herrnstein and Murray (1994) report—ability measures predict performance to the degree that they load on the g or general factor in cognitive ability, then perhaps morale is the analogous best predictor of extra-role contributions. And conceivably an attitudinal measure predicts OCB to the extent that it loads on this general morale factor. Disposition enters into this scheme to the extent that differences in innate temperament or stable personality factors, directly or indirectly, contribute to differences in this m factor.

An exception to the foregoing position is conscientiousness and related constructs. Conscientiousness displays roughly the same degree of association with generalized compliance, the more impersonal brand of OCB, as that exhibited by attitudinal measures. Its effect is thus presumably not mediated by contextual attitudes but acts more as a direct contributor. This inference is consistent with a growing body of evidence (e.g., Barrick & Mount, 1991; Borman & Motowidlo, 1993b; Hogan J & Hogan R, 1989; Hough, 1992) establishing this aspect of persons as a predictor of various criteria in an enlarged performance domain (although there is some disagreement over whether this dispositional variable is best captured by the Big Five’s taxonomy or by some variant thereof).

However, we do not wish to minimize the role of disposition in respect to OCB. Only a limited set of dispositional variables have been examined, and the extent of research on disposition and OCB has not been as extensive as that on attitudes. Also, all of the studies in question used self-reports of personality. This approach implicitly treats “personality” as the structures and dynamics within the person and assumes that people can reliably and accurately describe these structures and dynamics. As Hogan (1991) has noted, an alternative and equally viable approach is to treat personality as social reputation, (i.e., recurring patterns in a person’s behavior as noted by others). Mount, Barrick, and Strauss (1994) found that subjects’ personality ratings obtained from sources other than self-ratings accounted for significant incremental variance in performance criteria beyond that predicted by self-ratings of personality. This finding obtained when coworkers rated the subject’s personality and supervisors rated performance, as well as the converse.
Self-report ratings of OCB. The final hypothesis addressed by the meta-analysis has to do with potential moderating effects of using self-report, as opposed to other-rating, measures of OCB. In several instances—most notably those concerning the relationships between satisfaction and altruism and satisfaction and generalized compliance—including those studies using self-reports of OCB was sufficient (along with sampling error and measurement reliability) to account for most of the variance in the correlations. Interestingly, this effect appears to be attributable only in part to the inflation of the mean correlation itself; variations within the self-report studies was a major factor. Most of the discussion of the problems in organizational research introduced by common method variance based on self-reports has centered on inflation of correlations due to spurious covariance. Possibly overlooked is that a greater problem might have to do with instability of the correlation. That is, using self-report measures of either attitudes or disposition and OCB as well conceivably opens the door to various temporal or situational moderators. For example, in a workgroup marked by pockets of acute discontent about recent salary adjustments, those people upset by paltry raises might not only report dissatisfaction, but also “justify” their indignation in defensive fashion by overstating “all the extra things I do.” This might be reflected in results showing a negative correlation between measures of reported satisfaction or fairness and self-rated OCB. Conversely, in a group with generally high levels of satisfaction but including a sizable subgroup with especially high levels of satisfaction, those with the greatest levels of satisfaction might feel more cognitive consonance by perceiving their contributions via OCB as significant.

Future research. Some leads for future research on OCB are suggested by promising work not yet reported in sufficient quantity to be included in these analyses. Moorman and Blakely (1993), for example, found individualism-collectivism, as an individual difference variable, to correlate with OCB; further conceptual and empirical work along these lines might aid our understanding of OCB in terms of different levels of analysis (individual, group, organization, culture). The work of George (1991) and George and Brief (1992) on affective states as the proximal determinant of OCB also bears continued attention; however, this line of inquiry will somehow have to reckon with the problem of detecting discrete episodes of OCB (rather than subjective ratings that presumably reflect aggregations or trends of OCB over time) and the psychological states antecedent to or concurrent with those episodes.

The assumption here has been that the correlates of OCB analyzed can be thought of as predictors in a causal sense. However, it remains plausible to think of some of these predictors—for example, satisfaction—as also following from OCB. Rendering OCB might lead to
noncontractual but much-appreciated responses from supervisors and coworkers. Very little work to date has permitted a confident inference about direction of causation. But it is noteworthy that in one study that looked at cross-lagged correlations (Bateman & Organ, 1983), earlier OCB predicted later satisfaction virtually as well as the converse.

One could argue, as have George (1990) and George and Brief (1992), that OCB is more interesting as a group-level phenomenon and that analytically this is the preferred level at which to theorize about causes of OCB. To date, the study of OCB has been virtually entirely at the individual level of analysis. This paradigm uses supervisor (or, in a few instances, peer) ratings of OCB by various individuals in the group. Such a measurement procedure essentially limits us to looking at covariates of the differences in ratings among individuals in one group. Interpreting differences in groups, when those differences might be due to different rating styles or reference points, is difficult. One would have to devise strategies that provide a common metric for gauging levels of OCB by different work units. A breakthrough on this front would permit comparisons in OCB between groups that differ importantly along such interesting dimensions as homogeneity (or, conversely, diversity), sociotechnical arrangements, methods of governance, and reward systems.

Another dominant characteristic in work on OCB to date is the concentration on what are assumed to be predictors or antecedents of OCB. At the margin, perhaps more is now to be gained from looking at variables more logically construed as consequences of OCB—at both the individual and group level. For example, MacKenzie et al. (1991), Motowidlo and Van Scott (1994), Borman et al. (1995), and Werner (1994) report findings suggesting that OCB has a significant effect on how the individual is rated in overall performance. What other consequences accrue to persons who render much OCB—informal status or leadership, overload, different basis of exchange with the leader (Dansereau, Graen & Haga, 1975)? And we should note that a key assumption in the rationale for studying OCB is the notion (Organ, 1988) that ultimately, aggregated across time and individuals, it contributes to organizational effectiveness. With the notable exceptions of such work as that by Karambaya (1991), George and Bettenhausen (1990), and Podsakoff and MacKenzie (in press), little effort has been given even to heuristic indicators that this assumption is viable.

We know something now (perhaps not as much as we would like, in terms of multiple $R^2$) about correlates of individual OCB. The significant questions remaining are whether other modes of conceptualization of OCB and other levels of analysis can further enrich the potential of this and related constructs for organizational theory and human resource management.

Copyright © 2001. All Rights Reseved.
REFERENCES


* Denotes studies used in meta-analyses.


*Kemery ER, Bedelian AG, Zacur SR. (1993). Reconsidering the role of affect in organizational citizenship*. Unpublished manuscript, University of Baltimore, Baltimore, MD.


*Konovsky MA, Ellito J, Pugh SD. (1994). The dispositional and contextual predictors of citizenship behavior in Mexico. Unpublished manuscript, Tulane University, New Orleans, LA.*


*Wilt LA. (1992, August). Perceptions of the situation and positive affect as predictors of altruism organizational citizenship behaviors. Paper presented at the meeting of the Academy of Management, Las Vegas NV.*

*Wilt LA, Olson K, Silver NC. (1993). Social responsibility and satisfaction as predictors of extra-role behavior. Unpublished manuscript. FAA Civil Aeromedical Institute, Oklahoma City, OK.*